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The Moderating Effect of Large Shareholders on Board Structure–Firm Performance Relationship: An Agency Perspective

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Abstract
We examine the nature and significance of the moderating effects of three characteristics of ownership (ownership concentration, family ownership and institutional ownership) on the relationship between board structure and firm performance. Using a sample of 30 non-financial listed firms on Tunis Stock Exchange over the period 2004-2010, we find support for the agency view of the positive relationship between board independence and performance. Similarly, in accordance with agency theory predictions, our results show that the separation of chair and chief executive officer positions improves firm performance. However, contrary to our predictions, the results indicate that larger boards enhance performance. On the other hand, consistent with the incentive effect, our results show that ownership concentration moderates positively the relationships between board independence, board size and performance. Similarly, in accordance with the agency perspective, while the institutional ownership moderates positively the board characteristics – performance relationship, the family ownership has a negative moderating effect.
Keywords: board structure, firm performance, corporate governance, ownership, agency problems.

1. Introduction

Agency theorists see the primary function of boards as monitoring the actions of managers to protect the interests of owners (Jensen and Meckling 1976; Eisenhardt 1989). Prior research suggests that the board of directors and its monitoring is considered to be the most essential internal governance mechanism to control managers from self-satisfying behavior (Fama and Jensen 1983). Monitoring by boards of directors can reduce agency costs inherent in the separation of ownership and control and, in this way, improve firm performance (Fama 1980; Zahra and Pearce 1989; Hermalin and Weisbach 1991). Desender (2009) argues that boards are by definition the internal governing mechanism that shapes firm governance, given their direct access to the two axes in the corporate governance: managers and shareholders. The literature on board, as a governance team, is mainly focused on issues such as board size, inside versus outside directors (also known as executive versus non-executive directors), separation of Chief Executive Officer (CEO) and Chair positions, etc (Dalton *et al.* 1998; Coles & Hesterly 2000; Daily *et al.* 2003) with an aim to improve the effectiveness of oversight. Many scholars have relied upon agency theory to examine the role of boards in affecting firm performance (Cadbury 1992; Vienot 1995). The results are mixed and not conclusive.

One possible reason is that researchers have not yet identified contingency factors that moderate the board structure – firm performance relationship. Given the role of power in agency theory, large shareholders' power is likely one factor that influences the effectiveness of the board of directors. According to Desender (2009), the composition and role of the board of directors can be influenced by large shareholders in the general shareholders meeting.

Recent empirical research shows that many publicly traded firms around the world have large shareholders in control (La Porta *et al.* 1999). Yet little research has been done on boards of companies with large shareholders. Existing studies on corporate boards of directors are generally restricted to large U.S. firms with disperse ownership. It is therefore not clear whether results in existing studies can be generalized to firms with large shareholders. For example, Hermalin & Weisbach (1988) argue that understanding how directors are chosen is crucial to understanding the roles the board can play. Consistent with Shivdasani & Yermack (1999), CEOs wield major influence in selecting new board members when ownership is dispersing. The authors find that CEO involvement in such instances is related to selecting directors that are less likely to monitor. However, higher voting rights by large shareholders may wield more influence in director selection. To the extent that concentrated ownership results in positive incentive effects, Yeh & Woidtke (2003) argue that large shareholder involvement should be related to selecting directors that are more likely to monitor.

In contrast, large shareholders may use their influence to select directors that are less likely to monitor in order to entrench themselves. In this sense, the power of large shareholders can be an obstacle to the effectiveness of outside directors. This can be documented as an agency cost associated with concentrated ownership structure.

On another hand, the effectiveness of the board of directors may depend on the nature of large shareholders. Recent literature recognizes that family control may bring about more effective management and supervision, and thus lead to lower owner–manager agency costs than in non-family firms. However, the moral risks arising

from the abuse of control rights by family shareholders is potentially more serious, and expropriation by these shareholders has become a prominent agency problem (Wei *et al.* 2011). According to Muttakin *et al.* (2011), controlling families fill the position of executive directors and CEO, which may increase the possibility of managerial entrenchment. Hence, there is a risk of expropriation of minority shareholders' wealth by families.

In contrast, several studies suggest that larger investors, such as institutional investors, can address agency problems in the firm because they have (1) an incentive to monitor firm management due to the size of their holdings, and (2) have the ability to effect change because of their voting blocs (Shleifer & Vishny 1997). Becht *et al.* (2005) argue that institutional investors have the necessary resources and expertise to perform their fiduciary duty of ensuring good returns by monitoring the board decisions.

This paper extends two streams of literature. First, it extends the literature on corporate boards by examining the effectiveness of board characteristics in firms that have characteristics that are more similar to firms' world-wide than firms in existing studies. Second, it extends the literature on corporate ownership concentration by examining the influence of negative entrenchment and positive incentive effects on board structure – firm performance relationship. Specifically, we study the moderating effect of large shareholders' ownership on the relationship between board characteristics and performance in a sample of Tunisian listed firms.

2. Literature Review and Hypotheses Development

2.1 Board Characteristics and Firm Performance

Research on the relation between performance and board characteristics can be examined from three perspectives. These are board independence, CEO duality and board size.

2.1.1 Outside Directors and Firm Performance

There are strong perceptions that independent directors lead to increased good governance. Previous studies such as Fama & Jensen (1983); Jensen & Meckling (1976) and Shleifer & Vishny (1997) conclude that a high proportion of outside directors on the board is viewed as potentially having a positive impact on performance. Support for the agency view of the positive relationship between board composition and financial performance has been noted by numerous studies (Baysinger & Butler, 1985; Jackling & Johl, 2009 and Arosa *et al.* 2010).

Hypothesis 1: There is a positive relation between outside directors and firm performance.

2.1.2 CEO Duality and Firm Performance

From an agency perspective, a duality of the chairman may substantially weaken the board's monitoring effectiveness. CEO duality is likely to create abuse of power, since this person will be very powerful without effective checks and balances to control her or him. Extant literature shows that many studies support a negative relation between CEO duality and firm performance (Sanda *et al.* 2003; Kyereboah-Coleman & Biekpe, 2005).

Hypothesis 2: There is a negative relation between CEO duality and firm performance.

2.1.3 Board Size and Firm Performance

One of the most consistent empirical relationships about boards of directors is that board size is negatively related to firm performance (Hermalin & Weisbach, 2003). Jensen (1993) argues that "Keeping boards small can improve their performance. When boards get beyond seven or eight people they are less likely to function effectively and easier for CEO to control."(p. 865). Furthermore, Lehn *et al.* (2003) suggest that large board size may improve the efficiency of decision making process as a result of information sharing. The empirical evidence supports these contentions by showing an inverse relation between board size and firms performance.

Hypothesis 3: There is a negative relation between board size and firm performance.

2.2 The Moderating Effect of Large Shareholders

Under recent literature viewpoint, there is a possibility that ownership concentration and board composition may be related to each other. Kim *et al.* (2005) suggest that large shareholder may have the power and incentive to influence board composition. Large shareholders may use their influence to select directors that are less likely to monitor in order to entrench themselves.

Moreover, it is argued that in firms with concentrated ownership, large shareholder is also the chairman of the board. In such circumstance, it is questionable as to whether such a board is capable of seriously evaluating and challenging the CEO. A CEO who is the sole manager on the board is argued to be more powerful than boards consisting of other managers and thus may influence decision-making, which in turn can have a negative impact on performance (Adams *et al.* 2005).

Alternatively, controlling shareholders may commit to limit expropriation by selecting directors or supervisors that are more likely to monitor (Yeh & Woidtke 2003). Seeing that when cash flow investment is high, the cost large shareholders must bear for expropriation increases relative to their benefits, they will select independent supervisors as a commitment to other shareholders.

Based on this discussion, we formulate the following hypotheses:

Hypothesis 4a (entrenchment effect): The power of the largest shareholder, represented by ownership rate, negatively moderates the relationship between board characteristics and firm performance.

Hypothesis 4b (incentive effect): The power of the largest shareholder, represented by ownership rate, positively moderates the relationship between board characteristics and firm performance.

Large shareholders activism can differ dramatically according to the identity of large shareholders. Recent literature recognizes that family control may bring about more effective management and supervision, and thus lead to lower owner–manager agency cost which is referred to as Agency Problem I, compared to non-family firms. However, the moral risks arising from the abuse of control rights by family shareholders is potentially more serious, and expropriation by these shareholders has become a prominent agency problem which is referred to as Agency Problem II (Wei *et al.* 2011). Prior research suggests that the board of directors is considered to be the most essential internal governance mechanism to control managers from self-satisfying behavior (Fama & Jensen 1983). However, for family firms, the board's role may be less effective (Yeh & Woidtke 2005).

Hypothesis 5: Family ownership moderates negatively the relationship between board characteristics and firm performance.

In contrast, the literature recognizes that institutional investors serve a significant role as monitors in the stock market. The efficient monitoring hypothesis initiated by Bathala *et al.* (1994) provides that institutional investors, by their expertise, can mitigate information asymmetry between insiders and outsiders. Given their increasing dominance in the equity markets, it is perhaps not surprising that institutions have become more active in their role as shareholders. According to the authors, the specific issues addressed by the institutional proposals can be categorized as the repeal of antitakeover amendments, changes in voting rules, and increased board independence.

Hypothesis 6: Institutional ownership moderates positively the relationship between board characteristics and firm performance.

3. Data and Methodology

3.1 Sample Selection and Data Sources

The sample consists of all non-financial companies listed on Tunis Stock Exchange (TSE) in Tunisia during the time period 2004-2010. The use of listed firms is due primarily to data availability and reliability because these are required by law to provide end of year financials. We have excluded financial companies because of their different regulation and disclosure requirements. We have also excluded firms with missing information. We therefore end up with a final sample of 30 non-financial companies, yielding 210 firm-years observations. The sample procedure is reported in Panel A of Table 1.The data on board composition, ownership structure and financial statement were gathered from the annual reports of each company registered in the official bulletins of the Tunisian stock exchange (TSE) and the financial market council (FMC) available on their websites.

In Panel B of Table 1, we classify the sample by business sector. The results show that firms are prevalent in various sectors such as consumer goods (9), consumer services (5), health care (2), telecommunication (1), industrials (9), basic material (4) and oil and gas (1).

3.2 Variable Definition

3.2.1 Dependent Variable

According to Bathula (2008), there are two broad sets of measures of performance used in the literature: accounting based measures and market based measures. Utility of each of these measures has been criticized by different authors. The critics addressed to accounting measures focus on the backward looking of these measures. On the other hand, market based measures are considered to be based on the perception of investors.

To measure a firm's performance, many management researchers prefer accounting based variables. The idea behind these measures is perhaps to evaluate managerial performance – how well is a firm's management using the assets to generate accounting returns of investment, assets or sales. ROA is measured as earnings before interest and taxes (EBIT) to book value of total assets (Anderson & Reeb 2004; Jackling & Johl 2009).

3.2.2 Independent Variables

As mentioned in the previous section, three characteristics of the board of directors are outside directors, CEO duality and board size. Board independence is measured in terms of outside directors' rate, i.e, the number of outside directors deflated by total number of directors (Seti-Atmaja *et al.* 2009). Consistent with Anderson & Reeb (2004), we define independent directors as individuals whose only business relationship to the firm is their directorship. Board Size is measured using the natural logarithm of the total number of members of the board of directors (Jackling & Johl 2009). CEO duality is a dummy variable which takes 1 if the CEO is also the chairman of the board and 0 otherwise.

3.2.3 Moderated Variables

Although board structure plays an important role in profitability, large shareholders are also important to the firms insofar as they influence the board effectiveness. Judging from the previous studies, ownership concentration and large shareholders' type are the closest relevant factors that are frequently used for investigating the impact on firm performance.

In this study, we define ownership concentration as the fraction of shares held by the largest shareholder. For ownership type, we use two measures, the family ownership and institutional ownership which are defined respectively as the fraction of shares held by families and financial institutions. These three variables are moderated variables in order to strengthen the relationship between the independent variable and dependent

variable.

3.2.4 Control Variables

Firm size (size) and debt ratio (debt) are control variables. Variance in firm size is controlled by including the log of total assets (Yarmack 1996) and the debt ratio is controlled by including the ratio of long term debt to book value of total assets (Anderson & Reeb 2003). Larger firms may have fewer growth opportunities (Morck *et al.* 1988) and more coordination problem which may negatively influence its performance. On the other hand, according to the pecking order theory, a negative relation could be expected between leverage and performance.

3.3 Model Specification

Based on the previous research, we tend to explore the moderating effect of large shareholders ownership on the association between board of directors' characteristics and performance. According to Baron & Keny (1986), the moderating effect is observed when a moderated variable Z alters the relationship's strength between the independent variable X and the dependent variable Y. The authors specify three relations that can be established: the influence of X on Y: (α_1); the influence of Z on Y: (α_2), and the influence of X and Z on Y: (α_3) in accordance with the following model:

$$Y = \alpha_0 + \alpha_1 X + \alpha_2 Z + \alpha_3 XZ \quad (1)$$

According to Le *et al.* (2006), if the moderator interacts with the independent variable, the regression coefficient α_3 of the interactive variable XZ in the above equation will prove significant. If the interaction proves significant, the second issue to be addressed is whether the suspected moderator is significantly related to the independent variable and/ or the dependent variable. If the moderator is significantly related to the independent variable or the dependent variable, the Pearson correlation coefficient between them is significant. Sharma *et al.* (1981) propose a typology of moderator variables by identifying four categories as illustrated in figure 1

In our study, a hierarchical moderated regression was run for clarifying the main effects of board structure and large shareholders' ownership on performance, controlling for size and debt.

In order to investigate the influence of the large shareholders' ownership on the board characteristics – performance relationship, we use two methods. The first method tests, on the full sample and on two sub-samples divided according to the median of the moderated variable, the following model:

$$ROA = \beta_0 + \beta_1 IND\_ADM + \beta_2 DUAL + \beta_3 B\_SIZE + \beta_4 DEBT + \beta_5 SIZE + \varepsilon \quad (2)$$

In the second method, we use interaction variables between board structure (board independence, board size and CEO duality) and ownership structure (ownership concentration, family ownership and institutional ownership):

$$ROA = \varphi_0 + \varphi_1 IND\_ADM + \varphi_2 DUAL + \varphi_3 B\_SIZE + \varphi_4 X + \varphi_5 IND\_ADM \times X + \varphi_6 DUAL \times X + \varphi_7 B\_SIZE \times X + \varphi_8 DEBT + \varphi_9 SIZE + \varepsilon \quad (3)$$

Where X is the moderated variable related to large shareholders' ownership: CONC_K, FAM_K, and INST_K.

4. Results

4.1 Univariate Tests

Table 2 presents difference in means of key variables between firms grouped according to their ownership structure. Firstly, based on the median value of the stock held by the largest shareholder, we distinguish between high-concentrated and low-concentrated firms. As indicated in the Table, on average, low-concentrated firms exhibit a better performance than high-concentrated firms (ROA: 5% versus 4%). With respect to board structure, the univariate analysis shows that high-concentrated firms have smaller board than low-concentrated firms (0.92 versus 0.96). However, the results indicate board independence and CEO duality are indistinguishable between high-concentrated and low-concentrated firms. In relation to the control variables, high-concentrated firms show higher size and debt level compared to low-concentrated firms.

The second classification takes into account the median value of family ownership. The results reported in Table 2 indicate that the performance is identical between high-family ownership firms and low-family ownership firms. With reference to board structure, the two groups of firms are only different regarding the number of independent directors. Moreover, the two groups have the same debt level. However, high-family ownership firms have smaller size than their counterpart low-family ownership firms.

Finally, we classify firms according to the financial institutions ownership. The univariate analysis shows that the performance is not significantly different between high-institutional ownership firms and low-institutional ownership firms. Regarding board structure, the first group has smaller board and higher number of independent directors than the second group. Furthermore, high-institutional ownership firms employ significantly higher debt in their capital structure than low-institutional ownership firms.

4.2 Hypotheses Test Results

4.2.1 Board Characteristics and Firm Performance

The relationships between board characteristics and firm performance are examined through an OLS regression. To test for multicollinearity, the Variance Inflation Factor (VIF) was calculated for each independent variable.

Myers (1990) suggested that a VIF value of 10 and above is cause for concern. The results reported in Table 3 indicate that all of the independent variables had VIF values of less than 10. With respect to the correlations between dependent and independent variables, the results of equation (2) on the full sample show a positive and significant relationship between independent directors and firm performance as predicted by hypothesis 1. This indicates that independent directors improve the performance of Tunisian firms. Our findings confirm other empirical studies by Weisbach (1988), Jackling & Johl (2009) and Arosa *et al.* (2010) on outside directors support the beneficial monitoring and advisory functions to firm shareholders.

Relating to CEO duality, our results suggest that the one-tier board typology is negatively and significantly related to firm performance and that when a CEO doubles as the board chairman ROA decreases. This indicates that firms perform poorer when the same person undertakes a dual role of CEO and chairperson. This is consistent with studies which have found out that the one-tier board structure type leads to severe agency problems (Jensen 1993; Kyereboah-Coleman & Biekpe 2005 and Desender 2009). Again, Kang & Zardkoohi (2005) argue that CEO duality reduces firm performance due to entrenchment effect**.** Our results provide support to hypothesis 2.

Contrary to our expectation, we find that the board size has a positive and significant impact on firm performance. This indicates that larger boards improve the performance of Tunisian firms in accordance with the view that larger boards are better for corporate performance because they have a range of expertise to help improve the efficiency of decision making process, and are harder for a powerful CEO to dominate. Furthermore, large boards were supported on the ground that they would provide greater monitoring and advice (Coles *et al.* 2008).

With respect to control variables, we find a negative and significant coefficients associated with debt level (β = -0.10, $p < 0.001$) and firm size (β = -0.014, $p < 0.05$). These results confirm the negative impact of leverage on performance due to agency costs of debt. Moreover, as the firm size increases, the agency costs are expected to increase since a large span allows for greater managerial discretion and opportunism (Morck *et al.* 1988).

4.2.2 The Moderating Effect of Large Shareholders' Ownership

The main focus of our analysis is to examine the moderating effect of large shareholders' ownership on the board structure – performance relationship. Tables 7 (Panel A, B and C) and 8 present the results of OLS estimations assessing this effect. First, we estimate the equation (2) on two sub-samples divided according to the median of the moderated variable (CONC_K, FAM_K and INST_K). Then, we estimate equation (3) including interaction variables.

- *Ownership Concentration*

Hypothesis 4 predicted that the power of the largest shareholder, represented by ownership rate, negatively moderates the relationship between board characteristics and firm performance according to the entrenchment effect and positively moderates the relationship between board characteristics and firm performance according to the incentive effect. Panel A of Table 4 reports the results of OLS regressions for the two groups: high-concentrated and low-concentrated ownership. These results indicate that the VIF values are widely less than 10. They range from 1.04 to 1.51. Interestingly, with regard to the explanatory power of the two models, we find a large difference between the adjusted R^2 values. These values are higher for the group high-concentrated ownership suggesting that higher fraction of shares confers to the largest shareholder the power to select board members and influence the effectiveness of their monitoring.

We find that board independence improves performance for the two groups divided according to the shares held by the largest shareholder. However, the coefficient associated with board independence is significant at 5% level for the firms with high ownership concentration and 10% level for their counterparts with low ownership concentration. This implies that the impact of board independence on performance is stronger for high-concentrated firms than low-concentrated firms. When we interact board independence with ownership concentration (Table 5), we confirm these results. We find that the coefficient on the interaction term is positive and significant (φ = 0.22, $p < 0.001$) which is consistent with the incentive effect (hypothesis 4b). This result shows that the largest shareholder moderates positively the board independence-performance relationship. Thus, relatively to our sample, in Tunisian context large shareholder enhances the effectiveness of monitoring by independent directors.

With respect to board size, our results show that larger boards improve performance of the two groups. However, the coefficient associated with board size is only significant for the group high-concentrated ownership. Furthermore, we find that the coefficient on the interaction between ownership concentration and board size is positive and significant (φ = 0.44, $p < 0.001$), which implies that the impact of board size on firm performance is stronger for firms with concentrated ownership. Therefore, in accordance with the incentive effect, ownership concentration moderates positively the board size-performance relationship.

The results for the impact of CEO duality on firm performance show a negative and significant coefficient associated with this variable for the group high-concentrated ownership and a negative and insignificant coefficient for the group low-concentrated ownership. The coefficient of the interaction term between ownership concentration and CEO duality is negative and significant (φ = -0.13, $p < 0.05$). This implies that the impact of

CEO duality on performance is weaker for firms with high ownership concentration.

❖ *Family Ownership*

Panel B of Table 4 provides the estimation of equation (2) using OLS regression for two sub-samples divided according to the median value of family ownership. The results show that VIF values range from 1.07 to 1.38. As the VIF statistics for all explanatory variables never exceed 10 in any regression model, multicolinearity does not pose a big problem in our study. With respect to board structure, we find that board independence has a negative and significant effect on performance of firms with high-family ownership. However, for low-family ownership firms, this effect is positive and significant. These results suggest that when family ownership is high, family shareholders have the power to appoint and replace independent directors which reduce the effectiveness of their monitoring as argued by Setia-Atmaja *et al.* (2009) and Muttakin *et al.* (2011). Such a conclusion is confirmed by the regression results of equation (3) presented in Table 5. According to this Table, the coefficient of the interactive variable between family ownership and board independence is negative and significant (φ = -0.13, $p < 0.001$) which provides support to Hypothesis 5.

Furthermore, we find an inverse relation between board size and performance for the two sub-samples. Board size appears to have a positive and significant impact on performance of low-family ownership firms, but it has a negative and insignificant impact on performance of high-family ownership firms. This result suggests that the impact of board size on performance is weaker for high-family ownership than low-family ownership firms, which is consistent with the findings of Anderson & Reeb (2004), Ibrahim *et al.* (2011) and Muttakin *et al.* (2011). These results are confirmed by by the regression results of equation (3). The coefficient on the interaction term between family ownership and board size is negative and significant (φ = -0.18, $p < 0.001$) which provides support to Hypothesis 5.

Concerning the impact of CEO duality on performance, we find negative but insignificant coefficients for the two sub-samples of firms. With regard to the interaction term, we find a positive but insignificant coefficient.

❖ *Institutional Ownership*

Hypothesis 6 predicted that institutional ownership moderates positively the relationship between board characteristics and firm performance. Panel C of Table 4 provides the results of this relationship for the two groups of firms divided according to the median value of institutional ownership. The results indicate that the VIF values are widely less than 10. They range from 1.09 to 1.33.

The results also show that board independence has a positive effect on performance of high-institutional ownership and low-institutional ownership firms. However, this effect is significant for the first group and insignificant for the second group. This implies that the impact of board independence on performance is stronger for high-institutional ownership firms. Our finding can be explained by the role of financial institutions in enhancing the effectiveness of monitoring by independent directors. Besides, univariate analysis shows that the proportion of independent directors is significantly higher in high-institutional ownership than low-institutional ownership firms. These results are confirmed by by the regression results of equation (3). The coefficient on the interaction term between institutional ownership and board independence is positive and significant (φ = 0.07, $p < 0.10$) which provides support to Hypothesis 6.

With reference to board size, our results show that larger boards improve performance of the two groups. However, the coefficient associated with board size is significant at 1% level for high-institutional ownership firms and insignificant for low-institutional ownership firms. This implies that the impact of board size is stronger for the first group than the second group. The coefficient on the interaction term between institutional ownership and board independence is positive and significant (φ = 0.33, $p < 0.001$) which provides support to Hypothesis 6.

Finally, the results for the impact of CEO duality on firm performance show a positive coefficient associated with this variable for the group high-institutional ownership and a negative coefficient for the group low-institutional ownership. These coefficients are statistically insignificant. Moreover, the coefficient on the interaction term between institutional ownership and CEO duality is positive but insignificant.

6. Conclusion

The study examined the moderating effect of large shareholders' ownership on the board structure – performance relationship of listed non-financial companies in Tunisia. First, we investigated the relationship between some measures of corporate governance such as board size, board composition, and CEO duality and firm performance. We find support for the agency view of the positive relationship between board independence and performance in coherence with the findings of Arosa *et al.* (2010) among others. Similarly, in accordance with agency theory predictions, CEO duality is detrimental for firm performance. However, the separation of chair and CEO positions improves firm performance. This result supports the argument that duality promotes CEO entrenchment by reducing board monitoring effectiveness. With respect to board size, our findings indicate that larger boards enhance performance supporting the view that larger boards are better for corporate performance because they have a range of expertise to help make better decisions, and are harder for a powerful CEO to dominate.

Second, to shed light on whether the effectiveness of board structure in controlling agency problems depends on ownership concentration and large shareholders' identity, we test the impact of this mechanism on the performance of high-concentrated and low concentrated firms, high-family and low family ownership firms and high-institutional and low-institutional ownership firms. Consistent with the incentive effect, our results show that ownership concentration moderates positively the relationships between board independence, board size and performance. Similarly, the institutional ownership moderates positively the board characteristics – performance relationship supporting the activism of institutional investors. However, consistent with the evidence of Muttakin *et al.* (2011), we find that in high-family ownership firms, board independence has a significant weaker impact on performance than low-family ownership firms. The results also indicate that board size of high-family ownership firms has a significant weaker impact on performance than their low-family ownership counterparts. We argue that a strong presence of family dominance in family firms influence the appointment and replacement of independent directors which may reduce the effectiveness of their monitoring resulting in a negative impact on firm performance. These conclusions are robust to the use of different measures of corporate performance and large shareholders' ownership.

The outcome of the study may have implications for the policy makers and regulators in understanding the impact of board structure on firm performance and the impact of large shareholders on the quality of corporate governance practices. It can help the regulators to adopt an appropriate balance of legislation, regulatory reform and their enforcement to make improvements in the corporate governance practices, particularly in the family-controlled firms.

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Fig. 1. Typology of moderating effects

	Z related to X, Y, or both	Z not related to X or Y
No significant interaction of X with Z	**Category I** Z does not act as a moderator	**Category II** Z acts as a homologizer (Effect of the strength/indirect effect)
Significant interaction of X with Z	**Category III** Z acts as a quasi moderator (Effect of the form/direct effect)	**Category IV** Z acts as a pure moderator (Effect of the form/direct effect)

Table 1- Sample description

Panel A- Sample selection

Firms	**Frequency**
Listed firms	55
Less	
Financial companies	24
Companies without necessary information for corporate governance and ownership data	1
= Total	***30***

Panel B- Sample distribution by sector

Business sector	**Frequency**	**Percentage**
Consumer goods	9	30%
Consumer services	5	16.67%
Health care	2	6.67%
Telecommunication	1	3.33%
Industrials	8	26.67%
Basic material	4	13.33%
Oil and gas	1	3.33%
Total	***30***	***100%***

Table 2: Difference of means tests by firms' group

Variable	**Ownership concentration**			**Family ownership**			**Institutional ownership**		
	High	***Low***	***p-value***	***High***	***Low***	***p-value***	***High***	***Low***	***p-value***
ROA	0.04	0.05	0.016	0.045	0.047	0.391	0.043	0.049	0.214
ADM_IND	0.14	0.12	0.383	0.06	0.22	0.000	0.20	0.08	0.000
DUAL	0.88	0.85	0.177	0.88	0.85	0.263	0.88	0.85	0.177
B_SIZE	0.92	0.96	0.000	0.94	0.94	0.470	0.93	0.95	0.067
DEBT	0.23	0.15	0.032	0.18	0.18	0.496	0.24	0.13	0.005
SIZE	7.70	7.63	0.067	7.53	7.79	0.000	7.64	7.69	0.162

Table 3-Regression results (full sample)

Variables	***Coefficient***	***t***	***Significant level***	***VIF***
Constant	0.11	2.47	0.014	
IND_DIR	0.04	2.73	0.007	1.01
DUAL	-0.02	-2.43	0.015	1.05
B_SIZE	0.07	2.66	0.008	1.10
DEBT	-0.10	-16.18	0.000	1.04
SIZE	-0.014	-2.46	0.046	1.11
R^2 = 0.461	***Adjusted R^2 = 0.453***	***F = 60.1***	***p = 0.000***	***N = 357***

Table 4- Regression results by firms' group

Panel A- High-Low concentration

Variables	*Group 1: High CONC_K*				*Group 2: Low CONC_K*			
	Coefficient	*t*	*level*	*VIF*	*Coefficient*	*t*	*level*	*VIF*
Constant	0.10	1.70	0.091		0.23	3.15	0.002	
DUAL	-0.03	-2.29	0.023	1.35	-0.01	-1.08	0.294	1.16
B_SIZE	0.17	6.41	0.000	1.26	0.06	1.39	0.168	1.15
IND_DIR	0.04	2.42	0.017	1.24	0.01	1.68	0.095	1.06
DEBT	-0.11	-10.11	0.000	1.04	-0.04	-1.70	0.091	1.51
SIZE	-0.02	-3.27	0.001	1.10	-0.01	-1.46	0.145	1.49
	R^2= 0.681 Adj.R^2 =0.672 F=75.1 p = 0.000 N= 182				***R^2 = 0.114 Adj.R^2 = 0.088 F = 4.3 p = 0.001 N=175***			

Panel B- High-Low family ownership

Variables	*Group 1: High FAM_K*				*Group 2: Low FAM_K*			
	Coefficient	*t*	*level*	*VIF*	*Coefficient*	*t*	*level*	*VIF*
Constant	0.20	2.97	0.003		0.15	2.17	0.032	
DUAL	-0.01	-0.24	0.812	1.10	-0.01	-0.93	0.355	1.23
B_SIZE	-0.05	-1.21	0.229	1.19	0.15	3.65	0.000	1.27
IND_DIR	-0.08	-2.14	0.034	1.35	0.04	2.58	0.011	1.07
DEBT	-0.11	-9.02	0.000	1.07	-0.07	-3.82	0.000	1.22
SIZE	-0.01	-1.20	0.230	1.09	-0.03	-3.19	0.002	1.38
	R^2 =0.654 Adj.R^2=0.643 F=61.2 p = 0.000 N = 168				***R^2 = 0.222 Adj.R^2= 0.201 F = 10.5 p = 0.000 N = 189***			

Panel C- High-Low institutional ownership

Variables	*Group 1: High INST_K*				*Group 2: Low INST_K*			
	Coefficient	*t*	*level*	*VIF*	*Coefficient*	*t*	*level*	*VIF*
Constant	-0.20	-3.16	0.002		0.35	6.36	0.000	
DUAL	0.01	0.40	0.692	1.25	-0.01	-1.48	0.141	1.09
B_SIZE	0.22	6.69	0.000	1.16	0.06	1.68	0.095	1.13
IND_DIR	0.04	3.26	0.001	1.20	0.01	0.43	0.665	1.13
DEBT	-0.11	-8.94	0.000	1.09	-0.12	-5.21	0.000	1.22
SIZE	0.01	0.84	0.401	1.09	-0.03	-3.77	0.000	1.33
	R^2 =0.639 Adj.R^2=0.628 F=59.8 p = 0.000 N = 175				***R^2 = 0.319 Adj.R^2=0.299 F = 16.5 p = 0.000 N = 182***			

Table 5- Regression results on the moderating effects of large shareholders' ownership

Independent variables	*Dependent variable ROA*								
	Regression 1			*Regression 2*			*Regression 3*		
	Coeff.	*t*	*level*	*Coeff.*	*t*	*level*	*Coeff.*	*t*	*level*
Constant	0.28	3.76	0.000	0.06	1.21	0.226	0.25	5.34	0.000
DUAL	0.03	1.41	0.158	-0.02	-1.62	0.105	-0.02	-1.70	0.091
B_SIZE	-0.12	-1.87	0.062	0.13	3.65	0.000	-0.08	-2.36	0.019
IND_DIR	-0.10	-3.70	0.000	0.05	3.05	0.02	-0.02	-0.55	0.581
DEBT	-0.10	-16.08	0.000	-0.11	-16.68	0.000	-0.11	-17.03	0.000
SIZE	-0.01	-2.20	0.029	-0.02	-2.76	0.006	-0.01	-2.25	0.025
CONC_K	-0.37	-2.48	0.014						
DUAL*CONC_K	-0.13	-1.99	0.047						
B_SIZE*CONC_K	0.44	3.26	0.001						
IND_DIR*CONC_K	0.22	3.69	0.000						
FAM_K				0.18	3.29	0.001			
DUAL*FAM_K				0.01	0.97	0.332			
B_SIZE* FAM _K				-0.18	-3.27	0.001			
IND_DIR* FAM _K				-0.13	-3.10	0.002			
INST_K							-0.34	-6.41	0.000
DUAL*INST_K							0.02	1.04	0.297
B_SIZE* INST _K							0.33	6.45	0.000
IND_DIR* INST _K							0.07	1.68	0.095
R^2	0.499			0.486			0.520		
Adjusted R^2	0.486			0.472			0.508		
F	38.4			36.4			41.8		
p	0.000			0.000			0.000		